

## 23. Почему в "лунных" панорамах так много бракованных кадров?

9-11 minutes

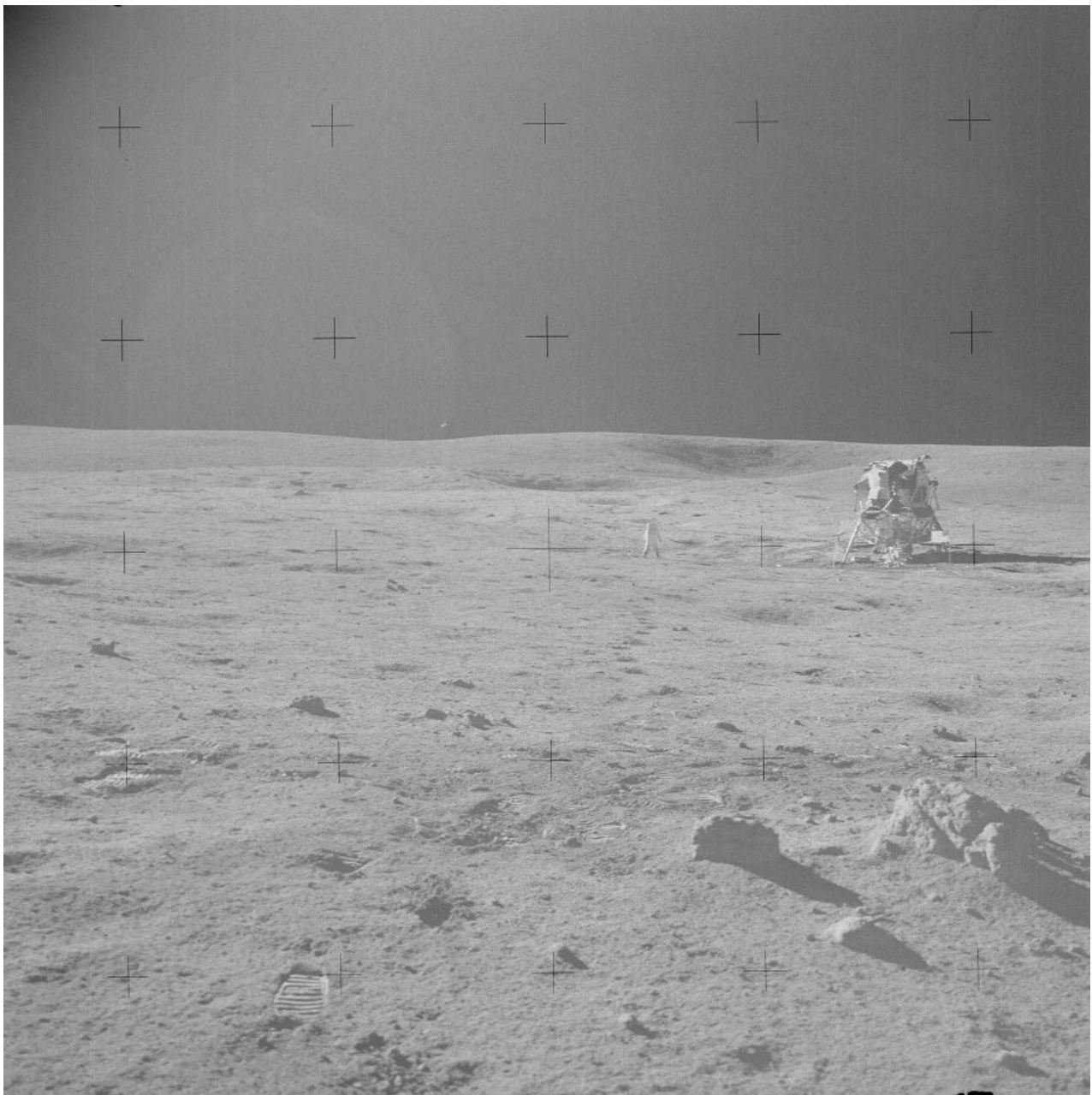
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In the previous article "[How the famous lunorama was filmed](#)" it was about the fact that lunar landscapes with a small astronaut in the distance in the Apollo 14 mission were filmed in a small pavilion using models and dolls. This technology, long and successfully developed in Hollywood - to use miniature models in general plans - has been used in many films since time immemorial and is still used in all film studios in the world.

The so-called "moon pictures" were taken not by astronauts, whose names are on everyone's lips, but by unknown cameramen from a studio like Voenfilm under the guidance of Hollywood specialists.

Lest you guess that instead of real astronauts and the lunar module there are toy objects in the frame, two types of technical defects were added to the frames of the alleged Apollo 14 mission. This is, firstly, deliberate illumination of the entire frame, and secondly, special shaking of the camera during photographing to obtain poor image sharpness.

So, in the AS14-68-9486 image, instead of the absolute blackness of space, a light gray veil fills the entire upper part of the frame.



Apollo 14 Image AS14-68-9486.

It is possible that the specialists who trained astronauts for photography on the Moon forgot to warn the astronauts that the sun is shining on the Moon during the day. And the astronauts, as if by accident, forgot to take with them hoods that protect the objective lenses from side flares. Any photographer, not even a professional, but the most ordinary amateur, knows that in sunny weather you need to put on a hood on the lens. It always comes with the camera.



A camera with a lens hood.

And what do we see in lunar expeditions? None of the astronauts for 6 years of "lunar missions" have guessed to use a hood during filming. But the front lens of the Biogon lens is very close to the edge of the frame.





Lens "Biogon", front view.

Of course, any side light from a bright source will immediately cause light scattering in the lenses, however, this flare will not spoil the entire image as much as shown in the Apollo images. After all, the Distagon lens is an expensive professional optics with multilayer coating. Coating was invented precisely in order to extinguish the light waves reflected from the surface of the lenses. We have seen that on modern lenses, the sun in the frame does not cause the entire area of the frame to be exposed. This is confirmed by the numerous photographs taken from the International Space Station - there is no gray veil covering the entire frame when the sun shines directly into the frame.



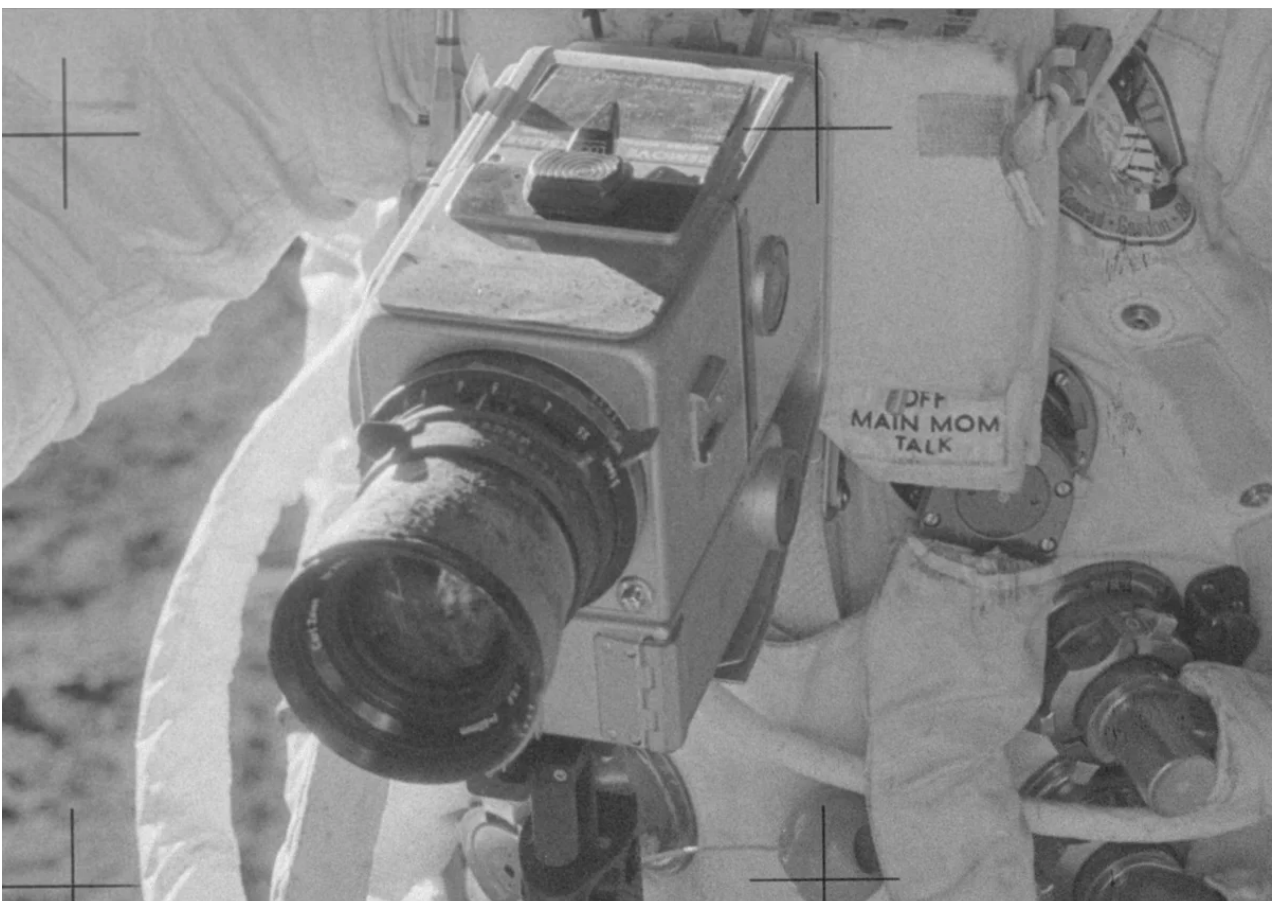
The sun is over the Earth. View from the ISS.





Sunrise, view from the ISS.

Why does the “moon” image look like it was taken with a cheap “soap box” with a lens with greasy plastic lenses installed on it? The clue lies in the fact that this increased flare was added specifically to degrade the quality of the image. According to the legend, dust provoked the illumination - no sooner had the photographer on the "Moon" uncovered the camera, than the dust covered the entire camera in a thick layer, as if after a dust storm.



The camera lens is exaggeratedly covered with dust.

So the pictures turned out to be defective from a technical point of view. But this is exactly what NASA specialists were trying to achieve - to get as many images with technical defects as possible. So, only in one cassette (Magazine 68 / MM), containing 101 "lunar" images, a technical defect was made on 23 images. Here are 4 consecutive shots, among which is the picture we are discussing.



Four consecutive frames from the Apollo 14 mission with a deliberate technical defect (cassette 68 / MM).

As soon as the "astronaut" appeared in the frame, these frames turned out to be overexposed so strongly that it was impossible to see anything there.



Three more consecutive frames from the same Apollo 14 68 / MM cassette. "Astronaut" is not visible at all.



4 more frames from the same 68 / MM cassette. Again, the "astronaut" was exposed to light.

But as soon as the panorama passed by the puppet astronaut, this "flare" disappeared. True, there was nothing to look at in these pictures - just sand. Such sand can be filmed by a lady in the yard.



The panorama passed the astronaut, the light disappeared.

We see that the lessons of training astronauts in photography were not in vain. "Astronauts" have learned how to take important elements into a technical waste, and to shoot an ordinary sandbox in sharpness and without flare.



In sharpness and without flare, shots were shot in which there is nothing interesting.

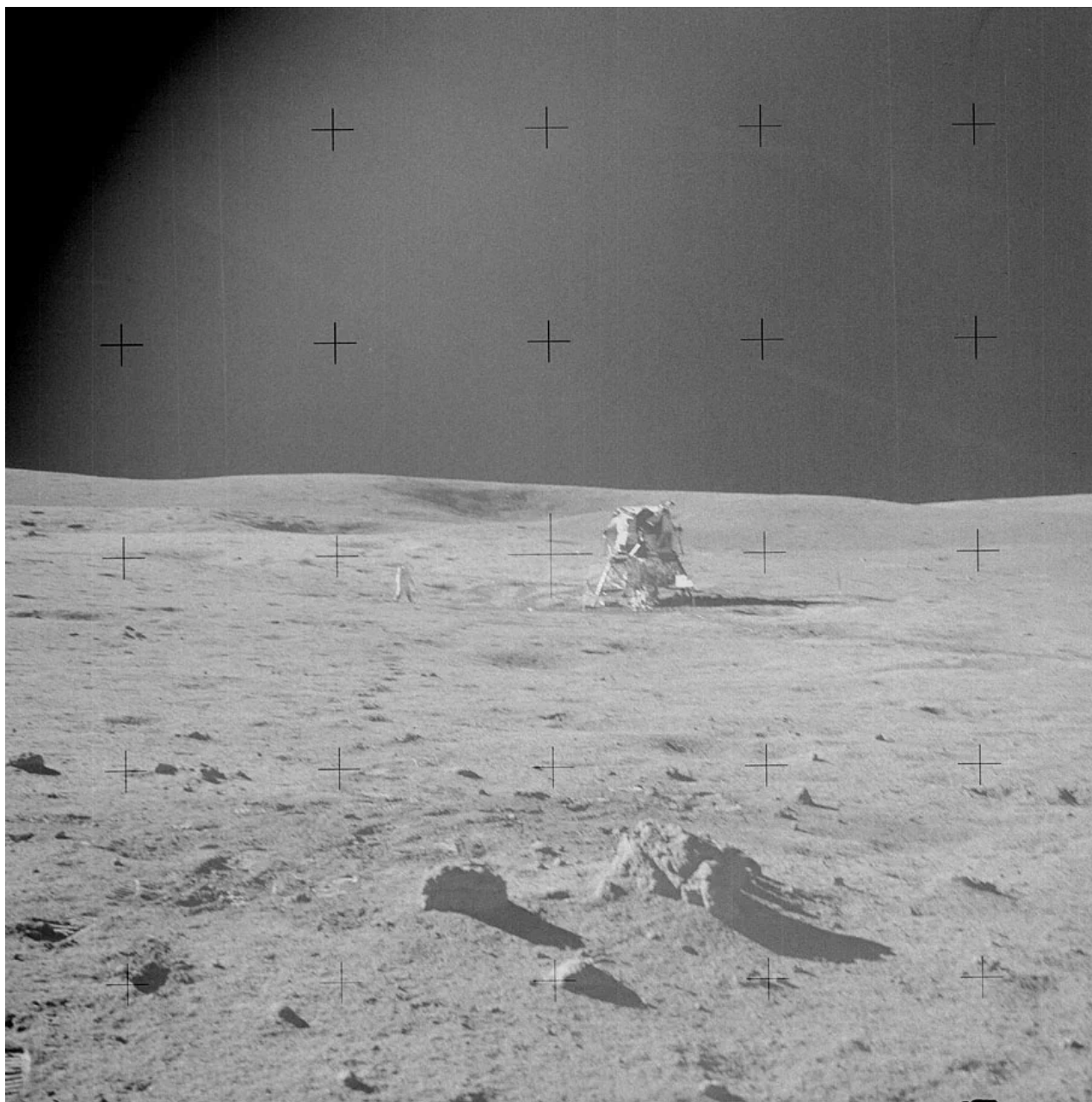
And since (according to legend) the astronauts filmed without being able to look through the viewfinder, to make the images "documentary", a real photographer shot the models so that they were specially cut by the frame boundaries.



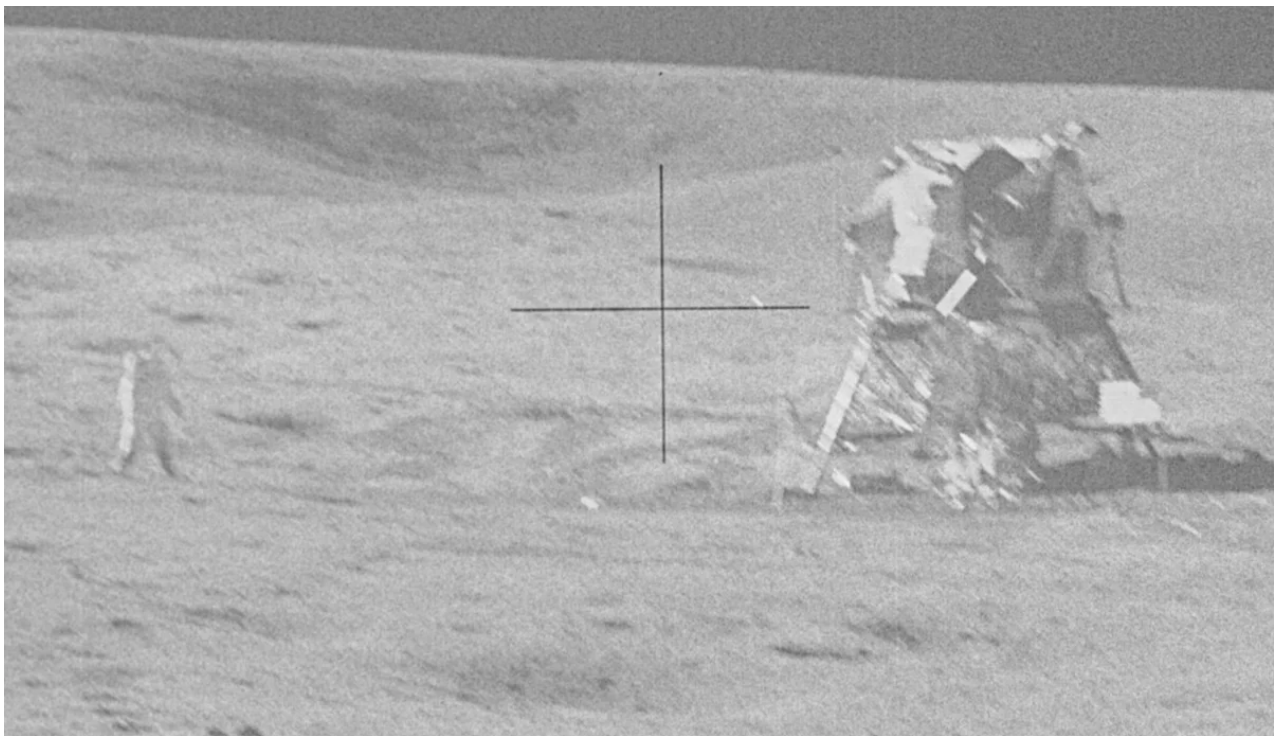
Again, the most important thing was in the light and outside the frame.

The second type of marriage, easily readable in pictures with dolls, looks very funny. This is the blur of the image, the so-called "shake". This is especially noticeable in the image AS14-68-9487.



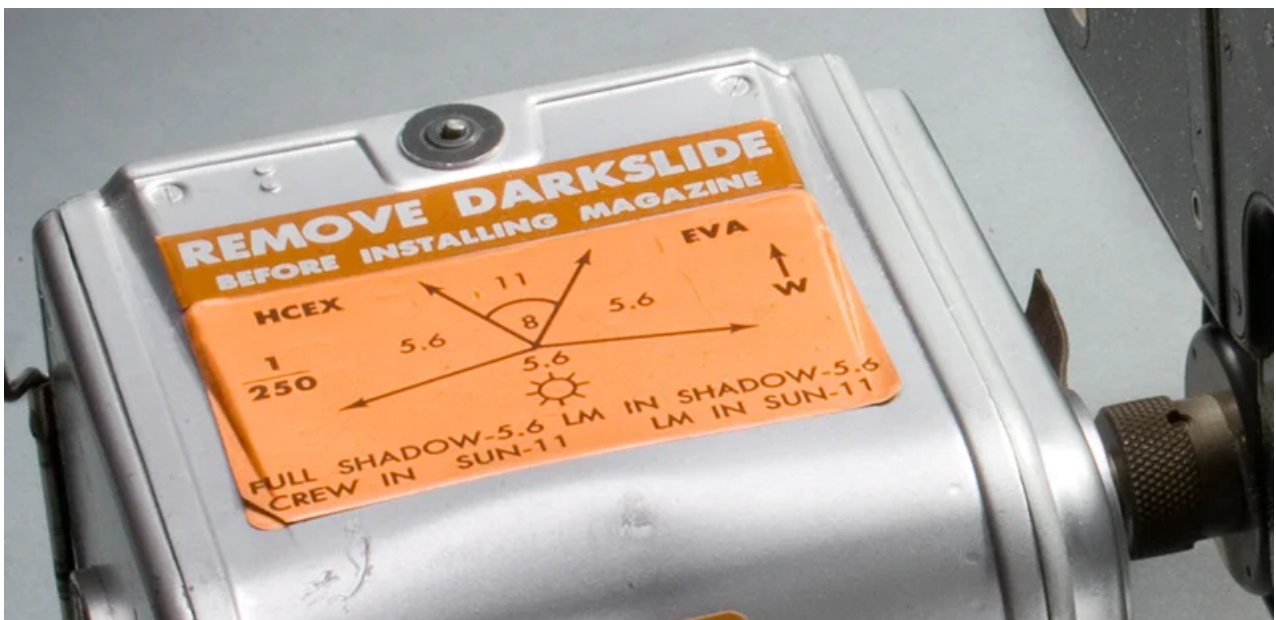


Apollo 14 Image AS14-68-9487.



Fragment of image AS14-68-9487, blurring of the image is clearly visible.

Any photographer will be surprised - well, what kind of blurring of an image can be in sunny weather at a shutter speed of  $1/250$  s? After all, it was with such a shutter speed, according to legend, that the astronauts filmed lunar landscapes, illuminated by the sun. The Hasselblad cassettes even had a special memo on which shutter speed to shoot.



Memo for the astronaut on the camera cassette that in sunny weather you need to shoot at a shutter speed of  $1/250$  s.

Since the object itself in the frame is completely static (the lunar module is stationary), the blurring of the image comes from the fact that the camera moves during exposure. For amateur photographers, there is a blur of the image (the so-called "shake") when shooting handheld at shutter speeds of  $1/30$  s and longer. The shutter release button on most film cameras is located so that you have to press it from top to bottom. Since there is no support under the camera when shooting handheld (at this time the second hand is focusing the lens), when



you press the shutter button you have to press hard to overcome the spring resistance. The entire camera begins a short downward movement, at which point the shutter opens and the frame is exposed. This is how the image is blurred when shooting without a tripod.



To take a picture, the shutter button must be pressed with force from top to bottom.

For photographers, blur was most common in shots taken indoors or in the evening, when there was not enough light, when they had to lengthen the shutter speed. But during the day, in sunny weather, when the exposure time of photographic film lasts less than one hundredth of a second ( $1/250$  or even  $1/500$  s), smearing was never observed. It is surprising, why did the “stirring” appear on the “moon” image? The surprise will only intensify when we look at the movement of the shutter button located under the lens on the Hasselblad camera. When the shutter is released, the button does not move vertically from top to bottom, but horizontally, in the depth of the camera.





The Hasselblad shutter button is located under the lens and, when pressed, is recessed in depth.

It should be borne in mind that the astronauts' camera is rigidly attached to a bracket on the spacesuit, at chest levels. And when you press the shutter, the camera cannot move anywhere. In fact, you get an analogue of shooting with a tripod at a shutter speed of  $1/250$  s. How does the blur of the image occur?



The camera was mounted on a bracket on a spacesuit.

**Our opinion is completely unambiguous: the strong illumination of the frames and the “shake” in the “lunar frame” of the Apollo 14 mission were made on purpose to hide the fact that there are dolls and models in the frame.** And since the doll itself cannot walk and jump, you will not see the "lunar" distant shots shot in the VIDEO or CINEMA mode, where the little astronaut figure walks or runs. For all the Apollo missions, not a single LONG plan has been filmed, where the actor-astronaut would have moved away from the shooting point further than 25-30 meters. In a previous article, "[Как снималась знаменитая "лунорама"?](#)" мы посчитали, что такая маленькая фигурка астронавта (как на самом верхнем снимке в начале статьи) могла получиться в том случае, если бы астронавт удалился от фотографа примерно на 54 метра. Чтобы снять видеок cadры с движущимся человеком, отошедшим от места съёмки на 50-60 метров, нужно построить нереально большой павильон, который непонятно как можно осветить. Об этом мы уже говорили в предыдущей статье. А вот чтобы снять неподвижную куколку, много места не нужна. Вся кукольная мультипликация на этом построена. **Distant shots in the Apollo missions are only in photographs, and instead of astronauts there are dolls standing next to the models. This technology (using layouts on general plans) was widely used in many Hollywood adventure and science fiction films.**

\*

Cameraman L. Konovalov was with you



Visiting the poet Andrei Voznesensky.

Until next time!